

Mizpah Mine  
Tonopah  
Nye County  
Nevada

HAER No. NV-4

HAER  
NEV,  
12-TONO,  
1-

PHOTOGRAPHS  
HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
National Park Service, Western Region  
Department of the Interior  
San Francisco, California 94102

HISTORICAL AMERICAN ENGINEERING RECORD

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NEV,  
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Mizpah Mine

HAER No. NV-4

Location:

Tonopah, Nye County, Nevada

Date of Operation:

1901-1948

Present Owner:

Tonopah Mining Company

Present Use:

Mizpah Mine Mill ceased operations completely in 1948.

Significance:

The Tonopah Mining boom was the first to revive the mining industry in Nevada after two decades of depression. Mining activity was long sustained at Tonopah largely due to the amazing production record of the Tonopah Mining Company, which owned the most productive mine in Tonopah mining history -- the Mizpah. The Mizpah shaft tapped the richest workings of the mine and continued to produce great quantities of ore long after most others at Tonopah had ceased production.

Report Preparation:

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## THE MIZPAH MINE

The discovery of rich ore deposits at Tonopah, Nevada in 1900, ended a depression which had threatened the state's economic security since the 1880s. The original discoveries made by Jim Butler were located along the main vein which was to produce the greatest amount of ore mined at Tonopah,

In early 1901, Butler and Co. began sinking a shaft a few feet deep and extracted two wagon loads of ore from the Mizpah. Butler and his associates, unable to raise sufficient capital for development, almost immediately divided the original claim into small sections to be leased on a 25% royalty basis. The leasers worked on a temporary contract which was to expire on December 31, 1901.

The work done by the leasers followed the main surface vein with a view to producing the largest and quickest returns. Whips, whims, and windlasses were the earliest equipment used to facilitate mining operations with gaso-line hoists installed in the more productive mines. By the fall of 1901, small wooden headframes were being erected over several of the shafts including the one later known as the Mizpah.

The production achieved by the leasers at Tonopah, while limited by capital investment, was sufficiently impressive to attract the attention of capitalists throughout the country. It was thus only a matter of months after the leasers commenced work that the original eight claims were secured on a bond of \$336,000 by O. A. Turner of Grass Valley, California for John Woodside of the American Tobacco Company in Philadelphia.

In July, 1901 the Tonopah Mining Company of Nevada was incorporated in New Smyrna, Delaware with J. F. Anderson as President, John W. Woodside as Treasurer and John H. Anderson as Secretary. The Tonopah Mining Company was the first incorporated company in Tonopah, and set the pattern for future mining corporations established in Tonopah.

The Tonopah Mining Company began immediate development of the Tonopah property in early 1902. The company began by sinking two major shafts - the Desert Queen Shaft in the northeast corner of the property and the Siebert Shaft, later termed the Mizpah, centrally located on the property.

The promising early production of the Mizpah Mine brought great fame to Tonopah and resulted in a speculation craze over the mines. The Mizpah Mine, however, proved to be the richest mine in Tonopah with the surrounding outcrop claims of corresponding productivity.

During the first three years of operation, the Tonopah Mining Company invested generously in the development of the Mizpah Mine, erecting a 65 foot steel gallows frame over the shaft, timbering the shaft with first-class Oregon pine and building an extensive surface plant.

The Mizpah Headframe, completed in May, 1903 was of "4-post" steel construction with both front and back inclined legs. The new headframe was built over the old wooden frame and was quite a landmark among the other Tonopah mines which were provided with wooden headframes.

The hoist and power house, a corrugated iron building on a steel frame, was erected in 1903-1904. The one-story structure was divided in three sections with the hoisting engine located in the higher central section, and the engine room and blacksmith shop on either side. At the time of its completion, the hoist house was equipped with a 44 horsepower Fairbanks Morse gasoline hoisting engine, a 150 horsepower Ingersoll-Sergeant air compressor, blower, dynamo and various other equipment. Electric motors replaced the gasoline engine in 1906.

A tressle, ore house, machine shop, and several other out buildings were also constructed at this time. The entire complex was electrically lighted.

By 1904 the Mizpah Shaft was the largest shaft at Tonopah with three compartments, two of which were equipped with one-deck hoisting cages using

flat ropes and reel hoists. By the end of the year the shaft was down to the 900 foot level with large stations cut on the 300, 500, and 700 foot levels, and over three miles of underground work done by the Tonopah Mining Company working through the Mizpah and two other shafts on the main vein, all connected underground. The values that came out of the Mizpah Mine were as high as \$300 per ton with an average between \$60-\$80, two-thirds to three-fourths of the value in silver and the balance in gold.

With production looking so good in the Mizpah, the Tonopah Mining Company undertook the development of water, power, transportation and milling facilities. The company formed a water company, established a power plant, constructed a narrow gauge railroad sixty miles in length connecting Tonopah with the Carson and Colorado branch of the Southern Pacific Railroad at Sodaville in 1905, and constructed a 100-stamp cyanide mill known as the Desert Mill, thirteen miles west of Tonopah on the railroad line.

The ambitious development plans of the Tonopah Mining Company were rewarded with a production of \$1,950,000 for 1905-1906, with the company's first dividend paid on April 22, 1905. This rate of production was achieved while processing ore at various outside facilities, chiefly at the Butters Cyanide Plant at Virginia City and smelters near Salt Lake, and later at the remodeled Midway Mill at Tonopah. The completion of the new 400-ton plant at Millers in 1906 allowed the company to achieve a high annual production total of \$3,427,357, accounting for over 70% of Tonopah production for the year 1907.

In 1907, an economic crisis struck the country and many banks and businesses failed at Tonopah. Mining companies suffered during this period of depression between 1907 and 1910, but the Tonopah Mining Company, under new management, continued to prosper. Development continued to reveal further discoveries of ore in the Mizpah and production from this mine alone accounted for about a third of the company's annual production.

The records of the company for the period 1907-1910 indicated an average production of 156,000 tons a year at a value of about \$3,200,000 with \$1,125,000 in annual dividends paid, equalling thirty-five percent of annual production.

The years from 1910 to 1930 marked the most successful and consistent period of production for the Tonopah Mines. While the Tonopah Mining Company maintained a good rate of production during this period (approximately \$22,400,000), it did not meet with the success of its earliest years (production of \$19,500,000 between 1901-1910).

Although the ore tonnage continued to be high for some years, averaging 150,000 tons annually, the grade was considerably lower. By 1914 it became necessary to ship dump ore from the underground workings to increase its total tonnage. In 1918 only 54,000 tons were extracted from the mine and the Company's Desert Mill was closed down in 1919 after eleven years of continuous operation. During the year a new discovery was made from a crosscut south of the Mizpah Shaft on the 400 foot level, three feet in width and assaying at \$17.32. This level had been worked for over twelve years and would continue to produce new ore discoveries many years later after the company leased out the mine.

Over the next few years silver wavered variably in price, determining the profit for a given period.

In 1922 a minor disaster occurred when a stope cave-in on the Mizpah property created a hole 150 feet by 200 feet and 150 feet deep, totally destroying the assay office and storehouse. Despite such setbacks, annual production continued to average between \$400,000 and \$500,000 or more throughout most of the decade. Production equalled \$212,491 in 1928 with about half that return for 1929.

The onset of the depression and simultaneous drop in the price of silver forced the closure of the mine and mill in February, 1930.

The Mizpah Mine was reopened October 3, 1930 under a leasing system with the Desert Mill treating both company and custom ore. The profit for the year was only \$4,000, with no dividend paid, but production improved under the leasing system with a raised annual production by 1933 of \$451,333 with \$85,634 paid in royalties to the company.

In December, 1933 the government raised the purchase price of silver dramatically from 34.7 cents an ounce to 64.64 cents, with values remaining steady until July, 1946 when it raised to 90.15 cents. The leasers profited considerably under this policy, processing 11,821 tons of ore valued at \$522,834 with \$91,792 paid in royalties to the company in 1935.

Unfortunately, the mine produced a decreased tonnage of lower grade in the ensuing years with profits falling steadily from \$67,551 in 1938 to \$2,423 in 1943, and a loss of \$10,000 in 1944. The years 1945, 1946, and 1947 also resulted in losses for the company, and further loss was sustained by damage to the Mizpah Shaft plant in 1945.

The mine was leased to the Russell Mining Company in 1948 which, after a few months of unsuccessful development, ceased operation, thus closing the Mizpah Mine after 48 years of operation.

The long and successful production of the Mizpah Mine must be largely credited to the capable management of the Tonopah Mining Company. This company possessed the most impressive record of any company in Tonopah with over fifty miles of underground development, 2,485,556 tons of ore extracted, \$48,112,132 in total production, and over \$17,000,000 in dividends paid.

#### Present Condition of the Mizpah Property

The steel headframe and steel-framed metal building originally serving as the hoist and power house of the Mizpah Mine, both built in 1903-1904, still remain in good condition. In addition, a metal building,

once used as the mechanics shop and dating from the same approximate period, is located adjacent to the hoist house. The hoist and power house remains essentially unchanged with the original electrically powered hoist and compressor equipment intact. The only apparent damage was sustained in a fire which destroyed part of the upper roofing sections. The steel headframe covering the Mizpah Shaft, is also in good condition, with the right elevator compartment still operational. The attached flat steel cable was unique at this time, as most others at Tonopah employed the round rope type. The shaft itself, which had been sunk to the 1500 foot level, is now backfilled to the 630 foot level. An ore loading platform is located a few feet from the shaft where ore taken from the mine was loaded onto cars.